



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------|-------------|----------------------|---------------------|------------------|
| 10/058,722 | 01/28/2002 | Yong Lu | CISCP251/4378 | 7898 |
| 22434 | 7590 | 01/23/2008 | EXAMINER | |
| BEYER WEAVER LLP | | | NGUYEN, THUONG | |
| P.O. BOX 70250 | | | ART UNIT | PAPER NUMBER |
| OAKLAND, CA 94612-0250 | | | 2155 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 01/23/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/058,722

Applicant(s)

LU ET AL.

Examiner

Thuong (Tina) T. Nguyen

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment filed on 11/29/07. Claim 36 is added. Claims 1-36 are pending and represent method, computer readable medium, and system for apparatus and methods for restoring traffic during failover in a cable head end.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 22-24, 26-27, 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Cloonan Patent No. 2002/0066110 A1 in view of Ansley., Patent No. 7,072,365 B1.

Cloonan teaches the invention as claimed including method and apparatus for preventing re-ranging and re-registration of cable modems during protection switching between active and spare cable interface cards in a cable modem termination system (see abstract).

4. As to claim 1, Cloonan teaches a method comprising:

receiving subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the method of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems);

prioritizing the cable modems using at least one of the subscriber information or a time of receipt of the subscriber information, the prioritized cable modems indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem termination system is to be restored (page 2; paragraph 14; page 4, paragraph 32; Cloonan discloses that the method of setting the priority level of the CMTS which appropriate with the classifying, prioritizing, flow control and scheduling between cable data subscribers and the Internet); and

polling the cable modems in the order indicated by the prioritized cable modems, thereby enabling the transmission of messages between the one or more cable modems and the backup cable modem termination system to be restored (page 3; paragraph 28-29; Cloonan discloses that the method of re-route the traffic between the switching fabric interface card for the active and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and polling by the backup cable modem termination system.

However, Ansley teaches system and method for multiplexing broadband signals (see abstract). Ansley the limitation wherein receiving, prioritizing and polling by the

backup cable modem termination system (figure 5; col 1, lines 38-52; col 2, lines 38-50; col 4, lines 5-68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Ansley so that the system would be able to switch and activate the cable modem once detected the failure. One would be motivated to do so to protect the system once experience the failure.

5. As to claim 2, Cloonan and Ansley teach the method as recited in claim 34, wherein at least one of the processor or the memory being further adapted for performing prioritizing and polling in response to a failover trigger from the active cable modem termination system (figure 4 & 7).

6. As to claim 3, Cloonan and Ansley teach the method as recited in claim 34, further comprising:

determining that the active cable modem termination system has (page 4; paragraph 32; Cloonan discloses that the method of determined the active cable modem interface card);

wherein prioritizing and polling are performed after determining that the active cable modem termination system has failed (page 4; paragraph 32 & 33; Cloonan discloses that the method of switch on the spare cable once detected a failure of the primary cable modem interface).

7. As to claim 4, Cloonan and Ansley teach the method as recited in claim 1, wherein the subscriber information identifies those modems that have ranged

successfully (page 3; paragraph 31; Cloonan discloses that the method of ranging information).

8. As to claim 5, Cloonan and Ansley teach the method as recited in claim 1, wherein receiving the subscriber information occurs after a specified period of time or after a call is received by the active cable modem termination system from one or more of the cable modems (page 4; paragraph 34; Cloonan discloses that the method of updating the subscriber information after period of time).

9. As to claim 6, Cloonan and Ansley teach the method as recited in claim 34, further comprising:

storing the subscriber information after receiving the subscriber information (page 1; paragraph 8-11; Cloonan discloses that the method of storing subscriber information which related to the network traffic and priority such as QoS and SLAs);

wherein prioritizing the cable modems comprises prioritizing subscribers associated with the cable modems using the stored subscriber information (page 1; paragraph 8-11; Cloonan discloses that the method of prioritize the network traffic for the subscribers based on QoS or SLAs).

10. As to claim 22, Cloonan and Ansley teach the method as recited in claim 1, wherein storing the subscriber information and a time of receipt of the subscriber information by the backup cable modem termination system such that the subscriber information is associated with the time of receipt (page 4; paragraph 36; Cloonan discloses that the method of transmit the time stamp values to the spare cable interface once detected the failure of the primary cable interface).

11. As to claim 23, Cloonan and Ansley teach the method as recited in claim 22, wherein the subscriber information is stored in order of the time of receipt (page 5; paragraph 41; Cloonan discloses that the method of storing the time stamp within the CMTS).

12. As to claim 24, Cloonan and Ansley teach the method as recited in claim 34, further comprising: storing the subscriber information and a time of receipt of the subscriber information by the backup cable modem termination system such that the subscriber information is associated with the time of receipt (page 4; paragraph 36; Cloonan discloses that the method of transmit the time stamp values to the spare cable interface once detected the failure of the primary cable interface).

13. As to claim 26, Cloonan and Ansley teach the method as recited in claim 1, further comprising: after receiving the subscriber information, sending an acknowledgement of the subscriber information to the active cable modem termination system (page 2; paragraph 25; page 3, paragraph 30; Cloonan discloses that the method of synchronizing MAC management messages with timing headers).

14. As to claim 27, Cloonan and Ansley teach the method as recited in claim 34, wherein repeatedly receiving subscriber information associated with one or more cable modems from an active cable modem termination system prior to prioritizing the cable modems (page 2; paragraph 15 & 25; Cloonan discloses that the method of setting the prioritize for the CMTS when a protection switch occurs between the two cables).

15. As to claim 32, Cloonan teaches a computer-readable medium comprising:

instructions for receiving subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the computer-readable medium of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems);

instructions for prioritizing the cable modems using at least one of the subscriber information or a time of receipt of the subscriber information, the prioritized cable modems indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem termination system is to be restored (page 2; paragraph 14; page 4, paragraph 32; Cloonan discloses that the computer-readable medium of setting the priority level of the CMTS which appropriate with the classifying, prioritizing, flow control and scheduling between cable data subscribers and the Internet); and

instructions for polling the cable modems in the order indicated by the prioritized cable modems, thereby enabling the transmission of messages between the one or more cable modems and the backup cable modem termination system to be restored (page 3; paragraph 28-29; Cloonan discloses that the computer-readable medium of re-route the traffic between the switching fabric interface card for the active and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and polling by the backup cable modem termination system.

However, Ansley teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (page 3, paragraph 24; page 5, paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Ansley so that the system would be able to operate smoothly by using the backup system. One would be motivated to do so to ensure smooth operation.

16. As to claim 33, Cloonan teaches a system comprising:

means for receiving subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the system of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems);

means for prioritizing the cable modems using at least one of the subscriber information or a time of receipt of the subscriber information, the prioritized cable modems indicating an order in which the transmission of messages between the one or more cable modems and the backup cable modem terminal system is to be restored (page 2; paragraph 14; page 4, paragraph 32; Cloonan discloses that the system of setting the priority level of the CMTS which appropriate with the classifying, prioritizing, flow control and scheduling between cable data subscribers and the Internet); and

means for polling the cable in the order indicated by the prioritized cable modems, thereby enabling the transmission of messages between the one or more

cable modems and the backup cable modem termination system to be restored (page 3; paragraph 28-29; Cloonan discloses that the system of re-route the traffic between the switching fabric interface card for the active and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and polling by the backup cable modem termination system.

However, Ansley teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (page 3, paragraph 24; page 5, paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Ansley so that the system would be able to operate smoothly by using the backup system. One would be motivated to do so to ensure smooth operation.

17. As to claim 34, Cloonan teaches a system comprising:

a processor (figure 4); and

a memory (figure 4),

receiving subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the system of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems);

prioritizing the cable modems using at least one of the subscriber information or a time of receipt of the subscriber information, the prioritized cable modems indicating

an order in which the transmission of messages between the one or more cable modems and the backup cable modem termination system is to be restored (page 2; paragraph 14; page 4, paragraph 32; Cloonan discloses that the system of setting the priority level of the CMTS which appropriate with the classifying, prioritizing, flow control and scheduling between cable data subscribers and the Internet); and

polling the cable modems in the order indicated by the prioritized cable modems, thereby enabling the transmission of messages between the one or more cable modems and the backup cable modem termination system to be restored (page 3; paragraph 28-29; Cloonan discloses that the system of re-route the traffic between the switching fabric interface card for the active and spare cable interface cards).

But Cloonan failed to teach the claim limitation wherein receiving, prioritizing and polling by the backup cable modem termination system.

However, Ansley teaches the limitation wherein receiving, prioritizing and polling by the backup cable modem termination system (page 3, paragraph 24; page 5, paragraph 37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cloonan in view of Ansley so that the system would be able to operate smoothly by using the backup system. One would be motivated to do so to ensure smooth operation.

18. As to claim 35, Cloonan and Ansley teach the system as recited in claim 34, wherein prioritizing the cable modems according to at least one of scheduling type identified in the subscriber information, presence of secondary subscriber identifier in

the subscriber information, or time of receipt of the subscriber information by the backup cable modem termination system from the active cable modem termination system (page 4; paragraph 34; Cloonan discloses that the system of priority the cable for the subscriber based on the time stamp).

19. Claims 7-21, 25, 28-29 & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Ansley, Patent No. 7,072,365 B1 and further in view of Gummalla, Patent No. 6,999,414 B2.

Cloonan teaches the invention substantially as claimed including reliability enhancement for cable modem service (see abstract).

20. As to claim 7, Cloonan and Ansley teach the method as recited in claim 1. But Cloonan and Ansley failed to teach the claim limitation wherein the subscriber information associated with each of the cable modems comprises a primary subscriber identifier that identifies the associated cable modem.

However, Gummalla teaches system and method for combining requests for data bandwidth by a data provider for transmission of data over an asynchronous communication medium (see abstract).

Gummalla teaches the limitation wherein the subscriber information associated with each of the cable modems comprises a primary subscriber identifier that identifies the associated cable modem (col 4, lines 38-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that the cable modem receives data from a user to be transferred via a cable network. One would be motivated to do so to ensure the importance of different priority identifiers to different types of data.

21. As to claim 8, Cloonan, Ansley and Gummalla teach the method as recited in claim 7, wherein the subscriber information further comprises a MAC address associated with the cable modem (figure 4).

22. As to claim 9, Cloonan, Ansley and Gummalla teach the method as recited in claim 7. But Cloonan and Ansley failed to teach the claim limitation wherein at least a portion of the subscriber information further comprises a secondary subscriber identifier.

However, Gummalla teaches the limitation wherein at least a portion of the subscriber information further comprises a secondary subscriber identifier (figure 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that the system would be able to separate the subscribers. One would be motivated to do so to ensure the flexibility of the system.

23. As to claim 10, Cloonan, Ansley and Gummalla teach the method as recited in claim 9. But Cloonan and Ansley failed to teach the claim limitation wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time.

However, Gummalla teaches the limitation wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time (col 6, lines 33-43).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that sending different bandwidth requests to CMTS. One would be motivated to do so to differentiate different priority identifiers values for data that has arrived at CMTS at different times.

24. As to claim 11, Cloonan, Ansley and Gummalla teach the method as recited in claim 9. But Cloonan and Ansley failed to teach the claim limitation wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data.

However, Gummalla teaches the limitation wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data (col 5, lines 6-28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that grant the requested bandwidth to cable modem accordingly for the voice data and video data. One would be motivated to do so to provide a more flexibility for the system.

25. As to claim 12, Cloonan, Ansley and Gummalla teach the method as recited in claim 9, wherein the subscriber information further comprises quality of service requirements (page 1; paragraph 8-11; Cloonan discloses that the method of associating the SLAs with the priority for the subscribers).

26. As to claim 13, Cloonan, Ansley and Gummalla teach the method as recited in claim 9. But Cloonan and Ansley failed to teach the claim limitation wherein at least a portion of the subscriber information further comprises a scheduling type.

However, Gummalla teaches the limitation wherein at least a portion of the subscriber information further comprises a scheduling type (col 8, lines 21-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that the system schedule the bandwidth transmit based on the quality of service parameters. One would be motivated to do so to prioritize the requested accordingly.

27. As to claim 14, Cloonan, Ansley and Gummalla teach the method as recited in claim 13. But Cloonan and Ansley failed to teach the claim limitation wherein the scheduling type indicates a type of real-time traffic to be transmitted.

However, Gummalla teaches the limitation wherein the scheduling type indicates a type of real-time traffic to be transmitted (col 7, lines 58-68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that the traffic could be faster and more accurate. One would be motivated to do so to reduce the overhead of bandwidth grants via downstream communication.

28. As to claim 15, Cloonan, Ansley and Gummalla teach the method as recited in claim 13, wherein the secondary subscriber identifier indicates that the messages to be transmitted between the backup cable modem termination system and the associated cable modem are to be transmitted in real-time (page 4; paragraph 33; Cloonan discloses that the method of loading the information into the spare cable interface once detect the failure in the system).

29. As to claim 16, Cloonan, Ansley and Gummalla teach the method as recited in claim 13. But Cloonan and Ansley failed to teach the claim limitation wherein the scheduling type indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data.

However, Gummalla teaches the limitation wherein the scheduling type indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem include voice data or video data (col 4, lines 51-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that the bandwidth prioritizes accordingly. One would be motivated to do so to ensure the flexibility of the system.

30. As to claim 17, Cloonan, Ansley and Gummalla teach the method as recited in claim 13. But Cloonan and Ansley failed to teach the claim limitation wherein the scheduling type is Unsolicited Grant Service or Unsolicited Grant with Activity Detection.

However, Gummalla teaches the limitation wherein the scheduling type is Unsolicited Grant Service or Unsolicited Grant with Activity Detection (figure 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that system would provide more variety choices. One would be motivated to do so to improve the performance of the system.

31. As to claim 18, Cloonan, Ansley and Gummalla teach the method as recited in claim 13. But Cloonan and Ansley failed to teach the claim limitation wherein prioritizing the subscriber information comprises searching the subscriber information associated with the cable modems for a secondary subscriber identifier; and prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier such that the cable modems with subscriber information having a secondary subscriber identifier have a higher priority than each of the cable modems with subscriber information not having a secondary subscriber identifier.

However, Gummalla teaches the limitation wherein prioritizing the subscriber information comprises searching the subscriber information associated with the cable modems for a secondary subscriber identifier (col 5, lines 49-63); and prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier such that the cable modems with subscriber information having a secondary subscriber identifier have a higher priority than each of the cable modems with subscriber information not having a secondary subscriber identifier (col 7, lines 4-10).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that the bandwidth requested are schedule to be service based on priority identifier. One would be motivated to do so to schedule the service based on the various quality of service parameter.

32. As to claim 19, Cloonan, Ansley and Gummalla teach the method as recited in claim 18. But Cloonan and Ansley failed to teach the claim limitation wherein prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier according to the scheduling type.

However, Gummalla teaches the limitation wherein prioritizing each of the cable modems with subscriber information having a secondary subscriber identifier according to the scheduling type (col 8, lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that separate the schedule of the bandwidth requested and data bust. One would be motivated to do so to utilize schedule to combine bandwidth requests from the same cable modem.

33. As to claim 20, Cloonan, Ansley and Gummalla teach the method as recited in claim 19, wherein prioritizing each of the cable modems with subscriber information having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system (page 4; paragraph 34; Cloonan

discloses that the method of priority the cable for the subscriber based on the time stamp).

34. As to claim 21, Cloonan, Ansley and Gummalla teach the method as recited in claim 18, wherein prioritizing each of the cable modems with subscriber information not having a secondary identifier according to time of receipt of the subscriber information from the active cable modem termination system (page 4; paragraph 35; Cloonan discloses that the method of prioritize the cable modems for the subscriber according to the time stamp).

35. As to claim 25, Cloonan and Ansley teach the method as recited in claim 24. But Cloonan and Ansley failed to teach the claim limitation comprising prioritizing cable modems according to the time of receipt of the corresponding subscriber information.

However, Gummalla teaches the limitation wherein prioritizing cable modems according to the time of receipt of the corresponding subscriber information (col 8, lines 49-58).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that CMTS schedule each data bandwidth accordingly. One would be motivated to do so to differentiate the important of the timing and type of data.

36. As to claim 28, Cloonan and Ansley teach the method as recited in claim 27, wherein receiving subscriber information associated with one or more cable modems from a first active cable modem termination system and receiving subscriber information associated with one or more cable modems from a second active cable modem

termination system (page 2; paragraph 12; Cloonan discloses that the method of associating subscriber information and prioritize the cable modem once detected the failure in the system).

But Cloonan and Ansley failed to teach the claim limitation wherein prioritizing the cable modems comprises prioritizing the cable modems associated with the first active cable modem termination system is performed separately from prioritizing the cable modems associated with the second active cable modem termination system.

However, Gummalla teaches the limitation wherein prioritizing the cable modems comprises prioritizing the cable modems associated with the first active cable modem termination system is performed separately from prioritizing the cable modems associated with the second active cable modem termination system (col 2, lines 33-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Gummalla so that providing the requested bandwidth and prioritize accordingly. One would be motivated to do so to structure data in order in which the bandwidth request were synchronize with the prioritize and scheduling system.

37. As to claim 29, Cloonan, Ansley and Gummalla teach the method as recited in claim 28, further comprising: storing information corresponding the prioritized cable modems associated with the first active cable modem termination system separately from information corresponding to the prioritized cable modems associated with the second active cable modem termination system (page 2; paragraph 12-14; Cloonan

discloses that the method of prioritize the cable modems based on the information of the subscriber such as QoS or SLAs).

38. As to claim 36, Cloonan, Ansley and Gummalla teach the method as recited in claim 9, wherein the secondary subscriber identifier indicates whether the messages to be transmitted between the backup cable modem termination system and the associated cable modem includes high priority traffic (page 1, paragraph 8 - page 2, paragraph 14; Cloonan discloses that the method of prioritized the messages accordingly to the SLAs of the subscribers and transfer that information over the backup cable once the active cable is failure).

39. Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan, Patent No. 2002/0066110 A1 in view of Ansley, Patent No. 7,072,365 B1 and further in view of Burroughs, Patent No. 2002/0144284 A1.

Cloonan teaches the invention substantially as claimed including method and apparatus for preventing re-ranging and re-registration of cable modems during protection switching between active and spare cable interface cards in a cable modem termination system (see abstract).

40. As to claim 30, Cloonan and Ansley teach the method as recited in claim 34. But Cloonan and Ansley failed to teach the claim limitation wherein receiving an indication that an active cable modem termination system has failed; determining an identity of the

failed active cable modem termination system; and wherein receiving subscriber information associated with one or more cable modems from the active cable modem termination system comprises obtaining the subscriber information associated with the failed active cable modem termination.

However, Burroughs teaches reliability enhancement for cable modem service (see abstract). Burroughs teaches the limitation wherein receiving an indication that an active cable modem termination system has failed (page 3, paragraph 32; Burroughs discloses that the method of determined if the primary downstream channel is invalid); determining an identity of the failed active cable modem termination system (page 3, paragraph 32; Burroughs discloses that the method of determined if the primary channel is invalid by detecting the loss of sync message, within time-out period and after a specific number of attempted); and wherein receiving subscriber information associated with one or more cable modems from the active cable modem termination system comprises obtaining the subscriber information associated with the failed active cable modem termination system (page 3, paragraph 29 & 32; Burroughs discloses that the method of transmit to the backup channel or modem once detecting the failure of the primary channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Burroughs so that the backup cable would take over once detected the invalid state of the primary cable modem. One would be motivated to do so to preventing those cable modems that have

their downstream service via that channel for the switching position of the active and the standby cable modem.

41. As to claim 31, Cloonan and Ansley teach the method as recited in claim 1. But Cloonan and Ansley failed to teach the claim limitation wherein receiving an indication that a call initiated by one of the cable modems has been terminated; and removing subscriber information associated with the one of the cable modems from memory associated with a previously failed active cable modem termination system.

However, Burroughs teaches the limitation wherein receiving an indication that a call initiated by one of the cable modems has been terminated (page 1, paragraph 4; Burroughs discloses that the method of detecting the failure of the CMTS); and removing subscriber information associated with the one of the cable modems from memory associated with a previously failed active cable modem termination system (page 1, paragraph 7; Burroughs discloses that the method of initializing the parameter, configuration once detect the invalid of the primary CMTS).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of Cloonan and Ansley in view of Burroughs so that the system would detect when the primary cable becomes invalid. One would be motivated to do so to prevent the delay in transmitting the messages or packets.

Response to Arguments

Applicant's arguments filed 11/29/07 have been fully considered but they are not persuasive. In response to Applicant's argument, the Patent Office maintains the

rejection. In the remarks, the applicant argues in substance that; A) Cloonan fails to teach receiving by the backup cable modem termination system subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers; B) Ansley neither discloses nor suggests receives subscriber information from an active CMTS, prioritizes cable modems and polling of cable modems in a prioritized order by a backup CMTS; C) Burroughs teaches away from the claimed invention because the process is performed when the cable modem determines that the primary downstream channel is not valid.

In response to A); Applicants argue that Cloonan does not teach receiving by the backup cable modem termination system subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers. In response to Applicant's argument, the Patent Office maintains the rejection because Cloonan does teach receiving by the backup cable modem termination system subscriber information associated with the one or more cable modems from the active cable modem termination system, the subscriber information including one or more subscriber identifiers (page 1; paragraph 8-11; Cloonan discloses that the method of associating subscribers information such as QoS or SLAs with the priority for the traffic flows and cable modems). Therefore, Coonan meets the claim limitation.

In response to B); Applicants argue that Ansley does not teach receives subscriber information from an active CMTS, prioritizes cable modems and polling of cable modems in a prioritized order by a backup CMTS. In response to Applicant's argument, the Patent Office maintains the rejection because Ansley does teach receives subscriber information from an active CMTS, prioritizes cable modems and polling of cable modems in a prioritized order by a backup CMTS (figure 5; col 1, lines 38-52; col 2, lines 38-50; col 4, lines 5-68; Ansley discloses that the method of detecting the failure of the active CMTS and switch over of the backup frequency selectable CMTS to be the temporary active main CMTS). Therefore, Cloonan and Ansley meet the claim limitation.

In response to B); Applicants argue that Burroughs teaches away from the claimed invention because the process is performed when the cable modem determines that the primary downstream channel is not valid. In response to Applicant's argument, the Patent Office maintains the rejection because Burroughs does teach receiving an indication that an active cable modem termination system has failed (page 3, paragraph 32; Burroughs discloses that the method of determined if the primary downstream channel is invalid); determining an identity of the failed active cable modem termination system (page 3, paragraph 32; Burroughs discloses that the method of determined if the primary channel if invalid by detecting the loss of sync message, within time-out period and after a specific number of attempted); and wherein receiving subscriber information associated with one or more cable modems from the active cable modem termination

system comprises obtaining the subscriber information associated with the failed active cable modem termination (page 1, paragraph 7; Burroughs discloses that the method of initializing the parameter, configuration once detect the invalid of the primary CMTS). Furthermore, Burroughs system is to detected the failure of the primary cable and obtain information related to that primary cable. Therefore, Burroughs meets the claim limitation.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuong (Tina) Nguyen whose telephone number is 571-272-3864, and the fax number is 571-273-3864. The examiner can normally be reached on 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuong (Tina) Nguyen
Patent Examiner/Art Unit 2155



SALEH NAJJAR
SUPERVISORY PATENT EXAMINER